

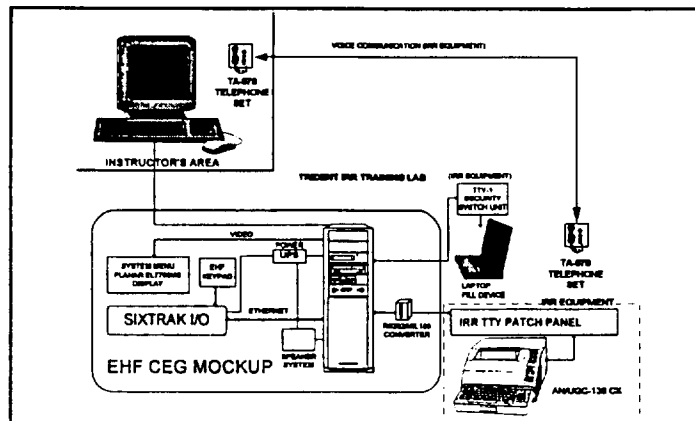
**SUMMARY OF
TRIDENT EHF SATCOM SIMULATOR**

SEPTEMBER 1997

DEVICE 21H33

NAVAL AIR WARFARE CENTER TRAINING SYSTEMS DIVISION

ORLANDO, FL



TRAINING CATEGORY:

SUBMARINE SYSTEMS

ORIGINATING AGENCY:

NAVSEA

**SECURITY CLASSIFICATION OF
DEVICE:**

Device 21H33 is
Unclassified

PURPOSE OF DEVICE:

Provides Integrated Radio Room (IRR) operator training for TRIDENT Extremely High Frequency (EHF) Satellite Communications (SATCOM).

INTENDED USE:

The EHF SATCOM Simulator supports pre-requisite, pipeline, advanced, and refresher training for TRIDENT class submarine IRR EHF SATCOM operations.

FUNCTIONAL DESCRIPTION:

Device 21H33 is installed at the TRIDENT Training Facilities Kings Bay, GA Bangor, WA. It consists of Tactical Equipment, Trainer Unique Equipment (TUE), Commercial-Off-The-Shelf (COTS) equipment, and interfaces with and uses TRIDENT IRR equipment. The device is controlled from an Instructor Station via a ETHERNET and RS232/MIL188 Converter to the Student Station.

The major components are the Instructor Station PC, Student Station Communications Equipment Group (CEG) Mock-up, SIXTRAK Input/Output (I/O), Uninterruptible Power Source (UPS), and an RS232/MIL188 Converter. The Instructor Station consists of a Gateway P5-166 PC, keyboard, mouse, and color monitor. The PC is housed in the CEG Mock-up. The CEG Mock-up houses a Terminal

Control Unit (TCU) EHF Keypad, System Menu Display, Fill Device, and the RS232/MIL188 Converter. The TCU Keypad provides inputs to the PC and the results are displayed on the System Menu and on the Instructor Color Monitor. The Fill Device Mock-up is used to send a signal to the PC indicating "fill complete".

The device is supported by a laptop PC that interfaces with the Instructor PC to provide ephemeris and black key data. It also interfaces with the TRIDENT IRR Teletype Switchboard to the AN/UGC-136 Teleprinter. The device uses two TA-970 Telephone Sets for voice communications between the Instructor area and the Student. The TA-970s are not interfaced with Device 21H33.

PHYSICAL INFORMATION:

The EHF SATCOM Simulator meets the transportation requirements for existing TRITRAFAC Kings Bay and Bangor building passageways and doors and is transportable via commercial transportation. The device classroom requires 3,664 BTU/H of cooling environmental air conditioning and must operate at 55-85° Fahrenheit temperature and 55-85% relative humidity.

The existing TRIDENT IRR labs provide sufficient space for the simulator. Sufficient space is provided to access the trainer for the conduct of training and maintenance.

EQUIPMENT REQUIRED (Not Supplied):

None.

POWER REQUIREMENTS:

120vac, 60 HZ, 4 Amps single phase.

Existing IRR power is adequate. An UPS supplies conditioned power to the Instructor PC, SIXTRAK, and speaker system. The Instructor Station color monitor is protected by a surge protector.

Emergency Power Off switch at the room exit doors.

PUBLICATIONS FURNISHED:

Systems Interface Manual, TRIDENT Extremely High Frequency Satellite Communications Simulator, Device 21H33 (U), NAWCTSD P-7137. (U) See NAWCTSD P-7103-1 through NAWCTSD P-7337-13 (U) for supplemental documents.

PERSONNEL:

Instructors will be submarine school graduates, instructor qualified, and paygrade E-5 or above. One instructor is required for the conduct of EHF SATCOM training.

The Contractor Operation and Maintenance of Simulators contractor will operate and maintain the EHF SATCOM Simulator.

CONTRACT IDENTIFICATION:

Naval Air Warfare Center Training System Division, Orlando, Florida.

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